

ON LINE COMPUTER CORP.

*Non-programmable
16k with
32 low-spd. lines*

VARIABLE TIME DIVISION MULTIPLEXOR



ON LINE
COMPUTER
CORPORATION

370 Ludlow Street
Stamford,
Connecticut 06902

Phone:
(203) 327-7354

STORED PROGRAM CONCENTRATOR-POWER
HARD WIRED MULTIPLEXOR-PRICE

MODEL VTDM™ – 1284

FEATURES

ECONOMY – Starts with low equipment cost. The VTDM's reason for being is to save your communication dollars. Each feature contributes toward this objective.

EFFICIENT LINE UTILIZATION – Variable time division multiplexing technique effectively increases the high speed line utilization, permitting less costly or fewer high speed lines and data sets than conventional fixed time division multiplexors.

FULL COMPUTER PORT CONTENTION – CROSS-MAPPING option solves the overload problem associated with incoming lines hardwired to separate ports. All ports are accessible to all compatible terminals in the network.

UNIVERSAL LINE ADAPTER – Universal line adapter permits the VTDM to interface with most data sets, computers and terminals, regardless of data stream characteristics.

DYNAMIC LINES – This unique feature permits different terminals to use the same 'dial-up' telephone number, producing great economies of lines and data sets.

FLEXIBILITY – Multiplexor chaining and branching with intermediate 'drop off' and 'forward through' capability permits maximum flexibility of network design.

MODULARITY – Modular design permits custom configuration to your needs. System alteration, expansion and maintenance are simple and inexpensive. The VTDM can be equipped for from 4 to 128 low speed lines and 1 to 4 high speed lines with a wide choice of data sets and baud rates.

TRANSPARENCY – The VTDM performs its dollar-saving function without affecting the actual terminal or computer generated data in any way. In most cases, NO SOFTWARE CHANGES are required.

MAINTAINABILITY – A minimum of different plug-in modules simplifies spare stocking and replacement. Front panel provides indicators for monitoring system operation and controls for detailed checkout of all lines.

DESCRIPTION

The **VARIABLE TIME DIVISION MULTIPLEXOR (VTDM)** is incorporated into data communication networks, to effect savings in lines, data sets, communications and processing facilities and/or to increase system response time and throughput. The VTDM concentrates many terminal/computer 'conversations' from low speed asynchronous lines onto one or a small number of high speed synchronous lines.

On the low speed side, the VTDM can be equipped with up to 128 universal line adapters, permitting all commonly used terminals to be interfaced via private line or switched network 'dial-up' connection.

On the high speed side, the VTDM can be equipped with up to 4 synchronous lines with speeds to 9600 bits/sec.

The VTDM eliminates dedication of high speed line time slots, used in Fixed Time multiplexors to identify message source and address. Instead the Variable Time slot technique uses a data block, containing data plus an address. VTDM serves only active lines and in any sequence, thereby increasing efficiency. Many additional terminals can be handled over the same high speed line; or, for the same number of terminals, fewer or less costly lines and data sets can be used.

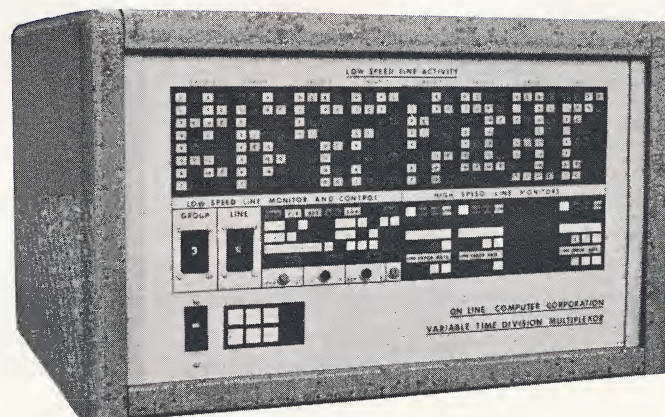
At the other end of the high speed line another VTDM demultiplexes and routes the data to the appropriate low speed line. If these lines are connected to computer ports, cross-mapping makes all ports accessible to all compatible terminals in the network. Traffic is not stopped by one busy port while another is idle. The VTDM's operation is completely transparent, i.e., the local and remote low speed lines involved in a specific transmission appear to be connected directly together.



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APPLICATIONS

The VTDM-1284 is compatible with a wide variety of terminals, data sets and computers and is suitable for any application where many low speed data streams must be transmitted over considerable distances.

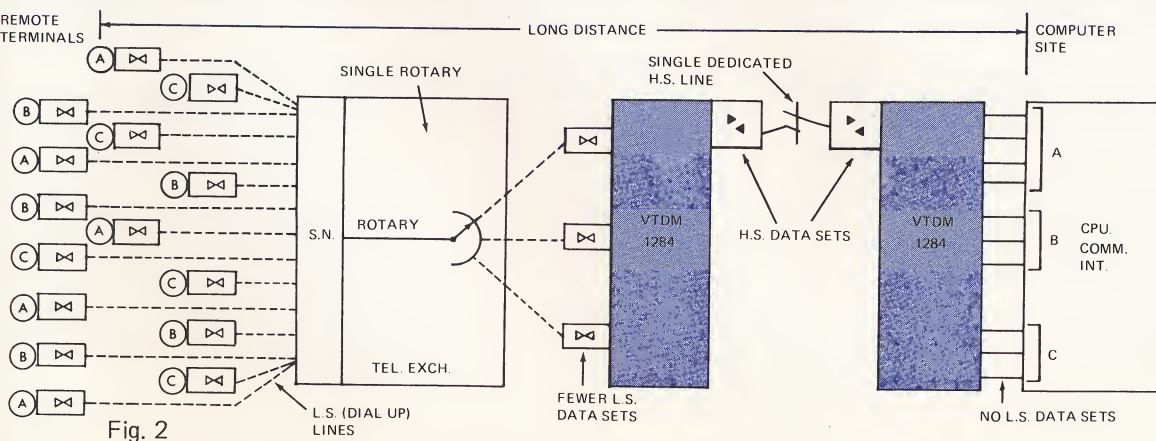
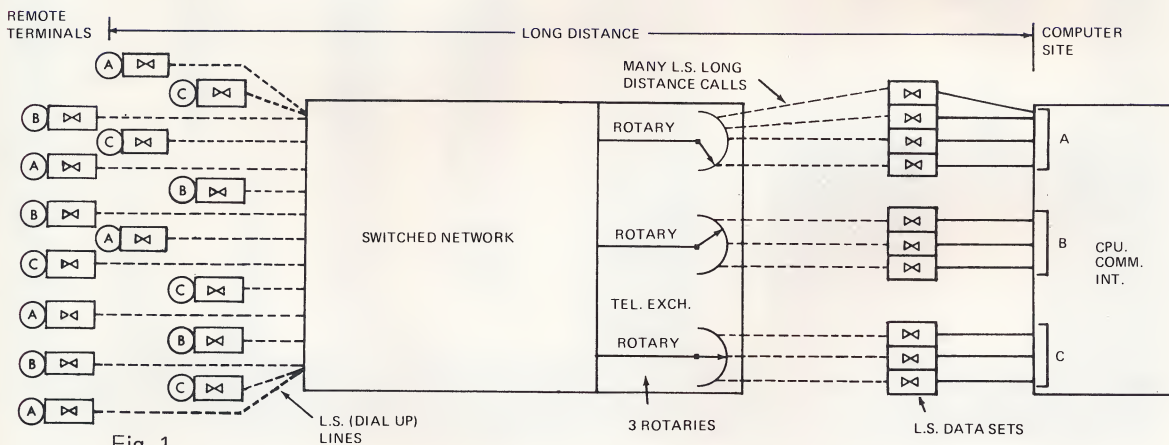
Typical applications include: time-sharing, corporate administrative network, stock quotation, telephone company long lines, airlines, etc. The most obvious benefit derived from using the VTDM's is the direct dollars saved through reduced line charges. Here the VTDM betters by a large margin the performance of conventional fixed time slot division multiplexors, which waste as much as 85% of the high speed line time transmitting nulls when low speed lines are idle. VTDM line savings alone can often be substantial enough to return the equipment investment in a few months. VTDM's other powerful features, especially DYNAMIC LINES and CROSS-MAPPING result in equally significant system cost and performance improvements. Total network size, the number of terminations (plus data sets), telephone numbers and rotary selectors can all be substantially reduced.

A pair of VTDM's back-to-back can be used to replace many low speed lines, without modification to the system software or remaining hardware. Fig. 1 shows 3 types of terminals A, B and C, connected by low speed lines, through the telephone company

switched network, to a computer communications interface. Fig. 2 shows the replacement of these low speed lines by back-to-back VTDM's and one high speed line. In this case, dynamic lines are used in the remote VTDM, permitting any user to dial a single telephone number. Connection is made through a rotary to any free dynamic line on the VTDM, regardless of terminal type. The number of dynamic lines need only be equal to the peak number of all users active at any time. By contrast, with static lines, 3 telephone numbers, 3 rotaries and more lines (and data sets) would have to be dedicated to handling the peak number of users of each type active at once.

In Fig. 2, the computer communications interface handles messages from each terminal type through specific static lines. The local VTDM, therefore, is equipped with CROSS-MAPPING and can assign messages to any available static line of the correct type, even though a message originated at any of the remote dynamic lines.

The VTDM can interface a variety of communications processors which can be connected to the multiplexer channel of an IBM S/360. The VTDM communication processor combination offers an attractive alternative to the IBM 2702 or 2703 Transmission Control.



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MODEL VTDM™ — 1284 TECHNICAL SUMMARY

LOW SPEED LINES

NUMBER — 4 to 128 L.S. lines — (increments of 4) actual number that can be handled dependent on high speed line(s) specification and L.S. line speeds.

SPEEDS — Any speed to 1800 baud, including: 45.5, 50, 75, 110, 134.5, 150, 300, 600, 850, 1050, 1200 and 1800 baud. Any mix of speeds.

CODES — Any 5 to 8 bit code, e.g., BAUDOT, USASCII, EBCDIC, PTTC/BCD, SELECTRIC, etc.

OPERATION — Asynchronous.

OPERATING MODE — Full duplex, half duplex or simplex.

STOP LENGTH — 4 stop lengths — 1, 1.4, 1.5 and 2 bits.

TERMINALS — Includes all terminals satisfying above baudrate/code/stop length requirements, e.g., TTY 28, 33, 35 and 37, IBM 2741, 2260, etc.

INTERFACES — Standard Interface per EIA RS-232. Options: teletype current interface or Mil. Std. 188B or direct logic level interface.

CONNECTORS — 25 PIN EIA Cinch (F).

DATA SETS — Optional 'INTEGRATED DATA SET' or any data set satisfying above requirements.

HIGH SPEED LINES

NUMBER — 1 to 4 H.S. lines.

SPEEDS — 7 Standard Baudrates 1200, 1800, 2400, 3600, 4800, 7200 and 9600 baud.

OPERATION — Synchronous.

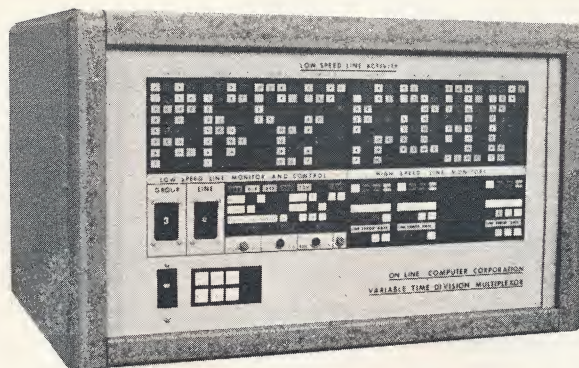
OPERATING MODE — Full duplex.

INTERFACE — Standard Interface per EIA RS-232.

DATA SETS — All data sets satisfying above requirements.

LINE CONDITIONING — As recommended for the data sets and Baudrate used.

ERROR CHECK — Parity generation and detection on multiplexed product. Error count and alarm.



GENERAL

MULTIPLEXING TECHNIQUE — Variable time slot.

COMPUTER INTERFACE — CROSS-MAPPING feature provides full computer port contention.

DYNAMIC LINES — Low Speed Lines may be dynamically controlled to handle a variety of terminals. Control effected by computer or terminal operator.

PHYSICAL CHARACTERISTICS

PACKAGING — Standard EIA rack or self contained.

DIMENSIONS — W — 20"; D — 25"; H — 15"; for basic system.

WEIGHT — 40 lbs. approx. for basic system.

POWER — 120 V AC $\pm 10\%$, 60 Hz $\pm 5\%$, 5 AMPS.

ENVIRONMENT — Temperature 0-50° C. Altitude 10,000 feet maximum. Relative humidity, 5 — 95%.

INSTALLATION AND OPERATION

POWER — Single 6 ft. power cord.

DATA SETS — Connecting Cables 6 to 50 feet equipped with standard 25 pin RS-232 type connector.

ADJUSTMENTS — Once installed, operation is fully automatic. No operator adjustments required.

MAINTENANCE

MAINTENANCE PLAN — Optional for purchased equipment. Maintenance depots in strategic locations, staffed with factory-trained technicians.

ON LINE COMPUTER CORPORATION

OLCC is dedicated to reducing your communication costs through a new line of communications equipment. The first of these products, the VTDM, offers an unmatched combination of cost saving features.

Our equipment is backed up by comprehensive support services. OLCC's system/application engineers understand the detailed requirements at the terminal and computer ends of the communications link.

These people are ready to service customer needs before and after installation.

To best determine how the VTDM can be used in your system to effect maximum dollar savings, call collect or write to Mr. Robert L. Jones, Vice President Marketing or Mr. John Atkinson, Director Communications Marketing. We will be pleased to analyze your application and suggest the optimum configuration of VTDM's and leased lines, to fit your specific needs.



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